

GP 1756

Patent
USSN 09/375,627
Atty Docket 99108

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

HANS LÖSCHNER, GERHARD STENGL and
HERBERT VONACH

For: PARTICLE MULTIBEAM LITHOGRAPHY

Serial No. 09/375,627

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INFORMATION DISCLOSURE STATEMENT UNDER
37 CFR §§ 1.56, 1.97 AND 1.98

TO:
Assistant Commissioner of Patents
Washington, D.C. 20231

Dear Sir:

In accordance with applicants' duty of disclosure under 37 CFR 211.56, applicants are submitting herewith: (1) PTO Form 1449 listing the following publications and (2) a copy of each publication listed below:

U.S. Patent No.

4,967,088

5,742,062

Foreign Publications:

EP 0 087 196

Patentee

Stengl et al.

Stengl et al.

LePoole

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CERTIFICATE OF MAILING	
I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, DC 20231 on	
Date	<u>11/9/99</u> <u>J. L. Vign</u>

Articles:

Characteristics And Applications Of Multiple Beam Machines,
by: Julius J. Muray, Microelectronic Engineering 9 (1989)
pages 305-309

Electron-beam microcolumns for lithography and related applications, by: T.H.P. Chang, et al., J. Vac. Sci. Technol. B 14(6) (Nov/Dec 1996), pages 3774-3781

An Approach to Multiple E-Beam System, by: Nobuo Shimazu, et al., Proceedings of the "International Workshop On High Throughput Charged Particle Lithography", Hawaii (August 11-15, 1997)

A New Focused Ion Beam System for Maskless Direct-write Lithography, by: Q. Ji, et al., Proceedings of the 43rd International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication, (EIPBN '99), Marco Island, Florida, (June 1-4, 1999)

Distributed, multiple variable shaped electron beam column for high throughput maskless lithography, by: T. R. Groves, et al., J. Vac. Sci. Technol. B 16(6), (Nov/Dec 1998), pages 3168-3173

Illumination and source requirements for a distributed-axis electron beam lithography system, by: D.S. Pickard, et al., Proceedings of the EIPBN '99

High throughput electron lithography with the multiple aperture pixel by pixel enhancement of resolution concept, by: P. Kruit, J. Vac. Sci. Technol. B 16(6) (Nov/Dec 1998), pages 3177-3180

Capability of Ion Beam Projection Optics for Microfabrication, by: Y. Madokoro, et al., Microelectronic Engineering 46 (1999), pages 493-496

Vakuumbeschichtung 1, by: Hartmut Frey, VDI-Verlag, Düsseldorf (Germany) 1995, Section 1.12.3, pages 154-162

Technology of ion beam sources used in sputtering, by: Harold R. Kaufman, J. Vac. Sci. Technol. 15(2) (March/April 1978), pages 272-276

Micromachined single-crystal silicon electron lenses, by: Wolfgang Hofman, et al., J. Vac. Sci. Technol. B 15(6), (Nov/Dec 1997), pages 2713-2717

The electrostatic moving objective lens and optimized deflection systems for microcolumns, by: M.G.R. Thomson, J. Vac. Sci. Technol. B 14(6), (Nov/Dec 1996), pages 3802-3807

ELECTROSTATIC LENSES, by: E. Harting, et al., Elsevier Scientific Publishing Company, Amsterdam, The Netherlands, 1976, pages 175-176

Focusing of Charged Particles, by: Albert Septier, Academic Press, New York, 1967, Vol. II, Chapter 3.1

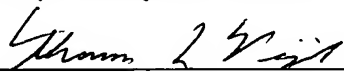
Tabellen zur angewandten Physik, by: Manfred von Ardenne, Veb Deutscher Verlag der Wissenschaften, Berlin (Germany), 1975, Volume 1, pages 9-13

Applicants submit that an English translation of the last reference listed above, which is in German, is unnecessary since the teachings of same are believed to be apparent from the drawings and graphs therein. However, if the Examiner would like an English translation of same, applicants will be happy to provide same upon receiving a request for same from the Examiner.

Applicants state that this Information Disclosure Statement is being submitted within three (3) months from the filing date of the application and before issuance of a first Office Action on the merits. Therefore, applicants submit that no fee or certification is necessary. However, if any fee is required, please charge such fee to applicants' attorney's Deposit Account No. 22-0355.

Dated: November 7, 1999.

Respectfully submitted,


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